Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A communication system comprising a communication apparatus connected to a voice terminal apparatus and an opposite-side communication apparatus connected to an opposite-side voice terminal apparatus, and making said communication apparatus and said opposite-side communication apparatus communicate with each other through a communication channel,

wherein[[:]] said communication apparatus comprises[[;]]:

a voice coding unit for code-compressing a voice signal from said voice terminal apparatus and thereby generating voice information,

a DTMF detecting unit for detecting a DTMF signal from a voice signal from said voice terminal apparatus,

a DTMF coding unit for, when ~~this~~ said DTMF detecting unit has detected a DTMF signal, generating DTMF information by coding a DTMF signal into a ~~specified~~ DTMF signal transmission form, and

an information outputting unit for outputting voice information generated by said voice coding unit and/or DTMF information generated by said DTMF coding unit to said communication channel.

2. (Currently Amended) A communication system according to claim 1, wherein[[:]] said opposite-side communication apparatus comprises[[;]]:

an opposite-side voice decoding unit for, when it has received voice information from said communication apparatus through said communication channel, decoding said voice information and thereby generating a voice signal,

an opposite-side DTMF information detecting unit for detecting that it has received DTMF information from said communication apparatus through said communication channel,

an opposite-side DTMF decoding unit for, when ~~this~~ said opposite-side DTMF information detecting unit has detected DTMF information, decoding ~~this~~ said DTMF information and thereby ~~generating~~ recognizing the content of DTMF,

an opposite-side DTMF signal generating unit for generating a DTMF signal on the basis of the content of DTMF ~~generated~~ recognized by ~~this~~ said opposite-side DTMF decoding unit, and

an opposite-side voice outputting unit for making said opposite-side voice terminal apparatus voice-output a voice signal generated by said opposite-side voice decoding unit and/or a DTMF signal generated by said opposite-side DTMF signal generating unit.

3. (Currently Amended) A communication system according to claim 1, wherein:

said DTMF detecting unit has a DTMF signal monitoring unit for monitoring that said DTMF signal has been detected continuously for a predetermined time or longer and, when ~~this~~ said DTMF signal monitoring unit has continuously detected said DTMF signal, judges that it has detected said DTMF signal from said voice signal.

4. (Currently Amended) A communication system according to claim 1, wherein:

said communication apparatus comprises an ATM cell generating unit for converting voice information generated by said voice coding unit or DTMF information generated by said DTMF coding unit into an ATM cell in an ATM cell form, and

said information outputting unit outputs said voice information and/or said DTMF information converted into a cell by said ATM cell generating unit to said communication channel in [[an]] said ATM cell form.

5. (Currently Amended) A communication system according to claim 4, wherein:

said opposite-side communication apparatus comprises an opposite-side ATM cell decomposing (de-celling) unit for, when it has detected voice information or DTMF information from said communication apparatus in said ATM cell form through said communication channel, cell-decomposing (de-celling) the voice information or DTMF information from said communication apparatus, said information being converted into a cell in ~~this~~ said ATM cell form.

6. (Currently Amended) A communication system according to claim 1, wherein:

said DTMF information has a header portion indicating destination information and a payload portion containing DTMF code information ~~indicating the code of said DTMF signal~~ and signal detecting time information indicating the time of detecting ~~this~~ said DTMF signal.

7. (Currently Amended) A communication system according to claim 6, wherein:

said DTMF detecting unit has a measuring unit for measuring the signal detecting time of said DTMF signal and an analyzing unit for analyzing the code of said DTMF signal, and

said DTMF coding unit, when said DTMF signal has been detected continuously for a predetermined time or longer, generates said signal detecting time information on the basis of the result of measurement of said measuring unit, generates said DTMF code information on the basis of the result of analysis of said analyzing unit, and generates said DTMF information including these signal detecting time information and ~~DTM~~ DTMF code information.

8. (Currently Amended) A communication system according to claim 2, wherein:

said DTMF information has a header portion indicating destination information and a payload portion containing DTMF code information ~~indicating the code of said DTMF signal~~ and signal detecting time information indicating the time of detecting ~~this~~ said DTMF signal.

9. (Currently Amended) A communication system according to claim 8, wherein:

said opposite-side DTMF decoding unit decodes said DTMF information and thereby ~~generates~~ recognizes the content of DTMF containing said DTMF code information and signal detecting time information, and

said opposite-side DTMF signal generating unit generates said DTMF signal on the basis of DTMF code information and signal detecting time information of the content of DTMF ~~generated~~ recognized by said opposite-side DTMF decoding unit.

10. (Currently Amended) A communication system in which a communication apparatus and an opposite-side communication apparatus are connected to each other through a communication channel,

wherein[[:]] said communication apparatus comprises[[;]]:

a voice coding unit for code-compressing a voice signal received from a terminal apparatus and thereby generating voice information,

a DTMF detecting unit for detecting that a voice signal received from said terminal apparatus is a DTMF signal,

a DTMF coding unit for, when ~~this~~ said DTMF detecting unit has detected the DTMF signal, coding a DTMF signal into a ~~specified~~ DTMF signal transmission form and thereby generating DTMF information, and

an information outputting unit for outputting voice information generated by said voice coding unit and/or DTMF information generated by said DTMF coding unit to said communication channel; and

said opposite-side communication apparatus comprises[[;]]:

a voice decoding unit for, when voice information from said communication apparatus has been received through said communication channel, decoding ~~this~~ said voice information and thereby generating a voice signal,

a DTMF information detecting unit for detecting DTMF information from said communication apparatus through said communication channel,

a DTMF decoding unit for, when ~~this~~ said DTMF information detecting unit has detected DTMF information, decoding ~~this~~ said DTMF information and thereby ~~generating~~ recognizing the content of DTMF,

a DTMF signal generating unit for generating said DTMF signal on the basis of the content of DTMF ~~generated~~ recognized by ~~this~~ said DTMF decoding unit, and

a voice outputting unit for voice-outputting a voice signal generated by said voice decoding unit or a DTMF signal generated by said DTMF signal generating unit to an opposite-side terminal apparatus.

11. (Currently Amended) A communication system according to claim 10, wherein:

said DTMF detecting unit has a DTMF signal monitoring unit for monitoring whether or not it has detected said DTMF signal continuously for a predetermined time or longer and, when ~~this~~ said DTMF signal monitoring unit judges that it has continuously detected said DTMF signal, judges that it has detected said DTMF signal from said terminal apparatus.

12. (Currently Amended) A communication system according to claim 10, wherein:

said communication apparatus comprises an opposite-side ATM cell generating unit for converting voice information generated by said voice coding unit or DTMF information

generated by said opposite-side DTMF coding unit into an ATM cell in an ATM cell form, and

said information outputting unit outputs said voice information and/or said DTMF information converted into a cell by said ATM cell generating unit to said communication channel in [[an]] said ATM cell form.

13. (Currently Amended) A communication system according to claim 12, wherein:

said opposite-side communication apparatus comprises an ATM cell decomposing (de-celling) unit for, when it has detected voice information or DTMF information from said communication apparatus in said ATM cell form through said communication channel, cell-decomposing (de-celling) the voice information or DTMF information from said communication apparatus converted into a cell in ~~this~~ said ATM cell form.

14. (Currently Amended) A communication system according to claim 10, wherein:

said DTMF information has a header portion indicating destination information and a payload portion containing DTMF code information ~~indicating the code of said DTMF signal~~ and signal detecting time information indicating the signal detecting time of ~~this~~ said DTMF signal.

15. (Currently Amended) A communication system according to claim 14, wherein:

said DTMF detecting unit has a measuring unit for measuring the signal detecting time of said DTMF signal from said terminal apparatus and an analyzing unit for analyzing the code of said DTMF signal, and

said DTMF coding unit, when said DTMF signal from said terminal apparatus has been detected continuously for a predetermined time or longer, generates said signal detecting time information on the basis of the result of measurement of said measuring unit, generates said DTMF code information on the basis of the result of analysis of said analyzing unit, and generates said DTMF information including these signal detecting time information and ~~DTM~~ DTMF code information.

16. (Currently Amended) A communication system according to claim 14, wherein:

said DTMF decoding unit decodes said DTMF information and thereby ~~generates~~ recognizes the content of DTMF containing said DTMF code information and signal detecting time information, and

said DTMF signal generating unit generates said DTMF signal on the basis of DTMF code information and signal detecting time information of the content of DTMF ~~generated~~ recognized by said DTMF decoding unit.

17. (Currently Amended) A communication method of a communication system comprising a communication apparatus connected to a terminal apparatus and an opposite-side communication apparatus connected to an opposite-side terminal apparatus, and making said communication apparatus and said opposite-side communication apparatus communicate with each other through a communication channel, said method comprising the steps of:

code-compressing a voice signal received from said terminal apparatus and thereby generating voice information,

detecting that a voice signal received from said terminal apparatus is a DTMF signal,

coding ~~this~~ said DTMF signal in a ~~specified~~ DTMF signal transmission form when ~~this~~ said DTMF signal has been detected and thereby generating DTMF information, and

outputting said voice information and/or said DTMF information to said communication channel.

18. (Currently Amended) A communication method according to claim 17, further comprising the steps of:

decoding voice information when said voice information has been received from said communication apparatus through said communication channel and thereby generating a voice signal,

detecting that DTMF information has been received from said communication apparatus through said communication channel,

decoding ~~this~~ said DTMF information when ~~this~~ said DTMF information has been detected and thereby ~~generating~~ recognizing the content of DTMF,

generating said DTMF signal on the basis of the content of DTMF ~~generated~~ recognized, and

making said opposite-side terminal apparatus voice-output said voice signal and/or said DTMF signal decoded.

19. (Currently Amended) A communication method according to claim 18, performing in order the steps of:

code-compressing a voice signal received from said opposite-side terminal apparatus and thereby generating voice information,

detecting that a voice signal received from said opposite-side terminal apparatus is a DTMF signal,

coding ~~this~~ said DTMF signal into a ~~specified~~ DTMF signal transmission form when ~~this~~ said DTMF signal has been detected and thereby generating DTMF information, and

outputting said coded DTMF information and/or voice information to said communication channel; and

performing in order the steps of:

decoding voice information when ~~this~~ said voice information has been received from said opposite-side communication apparatus through said communication channel and thereby generating a voice signal,

detecting that voice information received from said opposite-side communication apparatus through said communication channel is DTMF information,

decoding ~~this~~ said DTMF information when ~~this~~ said DTMF information has been detected and thereby ~~generating~~ recognizing the content of DTMF,

generating said DTMF signal on the basis of the content of DTMF ~~generated~~ recognized, and

voice-outputting a decoded voice signal and/or DTMF signal or said voice signal to said terminal apparatus.

20. (Currently Amended) A communication system comprising a communication apparatus connected to a voice terminal apparatus and an opposite-side communication apparatus connected to an opposite-side voice terminal apparatus, and making said communication apparatus and said opposite-side communication apparatus communicate with each other through a communication channel,

wherein[[:]] said communication apparatus comprises[[;]]:

a voice code compressing portion for voice-code-compressing a voice signal from said voice terminal apparatus,

a voice cell generating portion for generating a voice cell by converting a voice signal voice-code-compressed by ~~this~~ said voice code compressing portion into a cell,

a DTMF signal detecting portion for detecting whether or not a DTMF signal is contained in a voice signal from said voice terminal apparatus and outputting ~~this~~ said content of detection as a first DTMF detection signal,

a DTMF signal monitoring portion for, when the first DTMF detection signal from ~~this~~ said DTMF signal detecting portion has been detected, generating signal detecting time information and code information of a DTMF signal and outputting the content of DTMF including these signal detecting time information and DTMF code information as a second DTMF detecting signal,

a DTMF cell generating portion for generating a DTMF cell by generating DTMF information on the basis of the first DTMF detection signal from said DTMF signal detecting portion and the second DTMF detection signal from said DTMF signal monitoring portion and converting ~~this~~ said DTMF information into a cell, and

a cell multiplexing portion for outputting said voice cell or said DTMF cell to said communication channel.